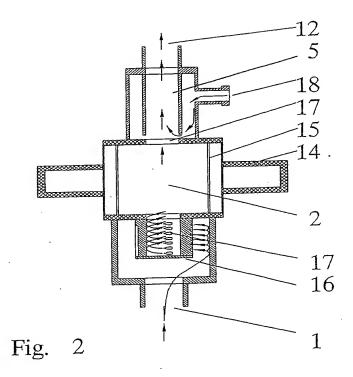
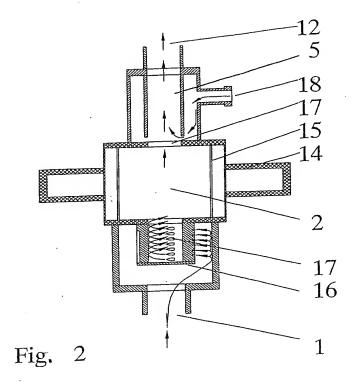


Fig. 1





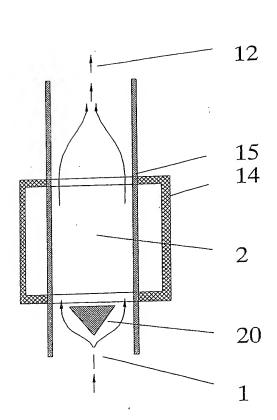


Fig. 3

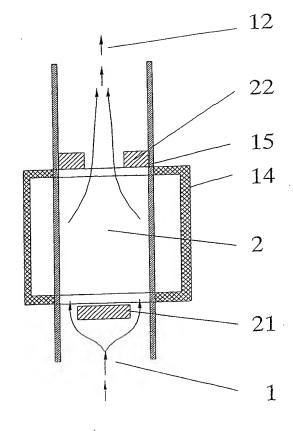


Fig. 4

Figure 5

Production of synthesis gas without addition of hydrogen					
$CO_2 + CH_4 \rightarrow 2 CO + 2 H_2$			$Ar/CO_2/CH_4 = 68/18/13 \%$		
			No catalyst		
Conversion		Yield			
CH	H ₂	CO	H ₂		
	-	0.83	0.93		
_	$+ CH_4 \rightarrow 2$	$+ CH_4 \rightarrow 2 CO + 2 H_2$ $V = 40 \text{ l/min}$ Sion $CH_4 \qquad H_2$	$+ CH_4 \rightarrow 2 CO + 2 H_2 \qquad Af/CO_2/CH_2$ $V = 40 1/min \qquad No catalyst$ $CH_4 \qquad H_2 \qquad CO$		

Production of synthesis gas with addition of hydrogen						
$CO_2 + CH_4 \rightarrow 2 CO + 2 H_2$			Ar/CO ₂ /CH ₄ /H2=70/15/11/4 %			
P = 5000 W V = 40 l/min		No catalyst				
Conversion		Yield				
<u> </u>	CH ₄	H_2	CO	H_2		
CO ₂	0.99	0.10	0.96	0.95		
0.93	0.22					

of acetyl	ene			
$CO_2 + C_2H_4 \rightarrow C_2H_2 + CO + H_2O$			$Ar/CO_2/C2H_4 = 73/21/6\%$	
	V = 38.5 l/min	No catalyst		
P = 3500 W V = 38.5 l/min Conversion			Yield	
CoH	.H ₂	CO	C ₂ H ₂	
	-	0.17	0.07	
	$C_2H_4 \rightarrow C$	C ₂ H ₄ H ₂	$C_2H_4 \rightarrow C_2H_2 + CO + H_2O$ Af/CO ₂ /C2H ₄ $V = 38.5 \text{ l/min}$ No catalyst $C_2H_4 \qquad H_2 \qquad CO$	

Production of benzene on copper catalysts						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			$Ar/CO_2/C_2H_4/H_2 = 66/19/9/6\%$			
P = 4500 W V = 42.5 I/min		Copper catalyst				
Conversion			Yield			
CO ₂	C ₂ H ₄	H ₂	CO	C ₆ H ₆		
0.37	0.23	0.65	0.25	0.02		